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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/581,457	09/11/2000	Paul Laurence Reynolds	RJENK15.001A	7342

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EXAMINER

VUONG, QUOCHIE B

ART UNIT	PAPER NUMBER
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2685

DATE MAILED: 02/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/581,457

Applicant(s)

REYNOLDS ET AL.

Examiner

Quochien B Vuong

Art Unit

2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 45-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 60 is/are allowed.
- 6) ☒ Claim(s) 45-59 and 61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Request for Continues Examination (RCE)

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/21/03 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 45-56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 45, it is not clear that the storage system receive the radio resource signaling reports from mobile stations or the plurality of base stations in the phrase "a storage system arranged to receive and store radio resource signalling reports generated by mobile stations when in connected mode in the cellular communications system, wherein the cellular communications system is arranged to

route the radio resource signalling reports from the plurality of base stations to the storage system”.

In view of the 35 U.S.C. 112, second paragraph, rejection above, the following rejections are based on the best interpretation by the examiner.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 45-50, 53-55, 57-59, and 61 are rejected under 35 U.S.C. 102(e) as being anticipated by Roach, Jr. (US 5,845,211).

Regarding claim 45, Roach, Jr. (figure 1) discloses a cellular communications system comprising: a plurality of base stations configured to conduct communications with mobile stations via a radio interface, wherein the mobile stations are used by subscribers; a storage system arranged to receive and store radio resource signalling reports generated by mobile stations when in connected mode in the cellular communications system (column 19, lines 56-62), wherein the cellular communications system is arranged to route the radio resource signalling reports from the plurality of base stations to the storage system (column 18, line 59 – column 19, line 12), and

wherein the storage system is configured to store data associated with the subscribers (column 19, lines 13-25); and a service node arranged to: receive data from the storage system for use in performing handover decisions; process the received data so as to allocate a radio resource to the mobile station, wherein the radio resource is allocated at least in part on the basis of the data associated with the subscriber; and transmit data identifying the allocated radio resource to at least one of the base stations (column 19, lines 26-55; figures 7A-B).

Regarding claim 46, Roach, Jr. discloses the data associated with the subscriber includes a personal subscriber profile and/or service information (column 19, lines 13-22).

Regarding claim 47, Roach, Jr. discloses the personal subscriber profile and/or service information includes at least one of bandwidth requirements, quality of service requirements, access rights, priority and preference lists, environment selection, hardware and software version numbers of the associated mobile station, preferred connection providers, and cost limits associated with the subscriber (column 19, lines 13-22).

Regarding claim 48, Roach, Jr. discloses the service node is arranged to request data from the storage system in response to receipt of data from one of the mobile stations (column 19, lines 13-22).

Regarding claim 49, Roach, Jr. discloses the service node is arranged to transmit a resource signalling report request to at least one of the mobile stations (column 19, line 56 – column 20, line 7)

Regarding claim 50, Roach, Jr. the system is arranged to transmit a resource signalling report request to the mobile station in response to a change in service conditions for the mobile station (column 18, line 59 – column 19, line 5; column 19, line 56 – column 20, line 7).

Regarding claim 53, Roach, Jr. the radio resource signalling reports comprise data indicative of downlink quality and/or neighbor cell signal strength (column 19, lines 5-12; 56-62).

Regarding claim 54, Roach, Jr. discloses the radio resource signalling reports comprise data specifying the current requirements of the mobile station (column 19, lines 12-25).

Regarding claim 55, Roach, Jr. discloses the current requirements include at least one of bandwidth, signal-to-noise ratio, radio path loss, cost, and quality of service requirements.

Regarding claim 57, Roach, Jr. (figure 1) discloses a method of allocating radio resources to a mobile station used by a subscriber in a cellular communications system, wherein the cellular communications system comprises a plurality of base stations including a base station serving the mobile station via a radio link, and wherein the cellular communications system has access to stored data for use in performing handover decisions, the method comprising: receiving a handover request in response to conditions satisfying one or more predetermined criteria (column 18, line 59 – column 19, line 5); retrieving at least some of the stored data in response to receipt of the handover request, wherein the retrieved data includes at least data associated with the

Art Unit: 2685

subscriber (column 19, lines 12-25); processing the retrieved data so as to allocate a radio resource to the mobile station, wherein the radio resource is allocated at least on the basis of the retrieved data (column 19, lines 12-49); and transmitting data identifying the allocated radio resource to at least one of the base stations (column 19, lines 50-55; figures 7A-B).

Regarding claim 58, Roach, Jr. discloses transmitting radio resource signalling reports to the cellular communications system and storing data indicative of the same for use in the allocation of radio resources (column 19, lines 5-49).

Regarding claim 59, since the mobile station reports signal measurement to the serving station (column 19, lines 56-62), it would be inherent that the radio resource signalling reports are transmitted during a dedicated channel traffic connection for the mobile station.

Regarding claim 61, Roach, Jr. (figure 1) discloses a service node for allocating radio resources to a mobile station used by a subscriber in a cellular communications system, wherein the cellular communications system comprises a network infrastructure and a plurality of base stations for conducting communications with mobile stations via a radio interface, wherein the network infrastructure comprises a storage system arranged to store data for use in performing handover decisions, wherein the storage system is configured to store data associated with the subscriber, and wherein the service node is arranged to: receive data from the storage system for use in performing handover decisions (column 19, lines 12-25); process the received data so as to allocate a radio resource to the mobile station, wherein the radio resource is allocated at least in part on

the basis of data associated with the subscriber (column 19, lines 12-49); and transmit data identifying the allocated radio resource to at least one of the base stations (column 19, lines 50-55; figures 7A-B).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 51-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roach, Jr. in view of Ekman et al. (US 5,960,355).

Regarding claims 51 and 52, Roach, Jr. does not disclose the radio resource signalling reports are encapsulated in the form of an SMS message and means for extracting the radio resource signalling reports from SMS messages received from the

Art Unit: 2685

mobile stations. However, Ekman et al. disclose transmitting the reports in the form of SMS message and means for extracting the reports from SMS messages received from the mobile stations (column 6, lines 47-65). Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to adapt the teaching of Ekman et al. to Roach, Jr., so that the SMS message can be use to carry out the radio resource signalling reports to reduce other signaling traffic.

9. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roach, Jr.

Regarding claim 56, Roach, Jr. discloses the system of claim 54. Roach, Jr. does not disclose wherein the current requirements include bandwidth, signal signal-to-noise ratio, radio path loss, cost, and quality of service requirements. However, examiner takes Official notice that bandwidth, signal signal-to-noise ratio, radio path loss, cost, and quality of service requirements are well known in the art as factors for performing handoff. Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to adapt the well known factors to Roach, Jr. in order to properly handoff for better service quality.

Allowable Subject Matter

10. Claim 60 is allowed over the cited prior art.

Regarding claim 60, Roach, Jr. (figure 1) discloses a method of allocating radio resources to a mobile station in a cellular communications system, wherein the cellular

Art Unit: 2685

communications system comprises a plurality of base stations including a base station serving the mobile station via a radio link, and wherein the cellular communications system has access to stored data for use in performing handover decisions, the method comprising: receiving a handover request in response to conditions satisfying one or more predetermined criteria (column 18, line 59 – column 19, line 12); retrieving at least some of the stored data in response to receipt of the request (column 19, lines 12-25); processing the retrieved data so as to allocate a radio resource to the mobile station (column 19, lines 12-49); and transmitting data identifying the allocated radio resource to at least one of the base stations (column 19, lines 50-55; figures 7A-B). However, Roach, Jr. and the cited prior art fail to teach or suggest wherein the handover request is encapsulated as an SMS message so as to prevent the serving base station from intercepting the radio resource signalling report.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Schmidt (US 4,765,753) discloses a method and apparatus for handing-over a radio connection from one radio cell to another radio cell of a digital radio transmission system.

12. ***Any response to this action should be mailed to:***

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

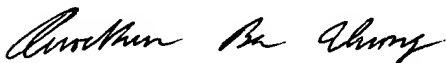
(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2021
Crystal Drive, Arlington, VA 22202, Sixth Floor (Receptionist).

Any inquiry concerning this communication from the examiner should be directed to Quochien B. Vuong whose telephone number is (703) 306-4530. The examiner can normally be reached on Monday through Friday from 9:30 a.m. to 6:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can be reached on (703) 305-4385.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Customer Service whose telephone number is (703) 306-0377.



QUOCHIE B. VUONG
PRIMARY EXAMINER

Quochien B. Vuong
Feb. 6, 2004.